

## RAW SEQUENCE LISTING

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Application Serial Number: 10/510,678

Source: pg 110

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## RAW SEQUENCE LISTING

DATE: 10/18/2004

PATENT APPLICATION: US/10/510,678

TIME: 17:04:35

Input Set : A:\Sequence.ST25.txt

Output Set: N:\CRF4\10182004\J510678.raw

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3 <110> APPLICANT: MEYER, Urs Albert
4     FRASER, David John
5     KAUFMANN, Michel R.
6     PODVINEC, Michael
7     ZUMSTEG, Adrian
9 <120> TITLE OF INVENTION: Enhancer sequence of the 5-aminolevulinic acid synthase gene
11 <130> FILE REFERENCE: 3024-107
C--> 13 <140> CURRENT APPLICATION NUMBER: US/10/510,678
C--> 13 <141> CURRENT FILING DATE: 2004-10-08
13 <150> PRIOR APPLICATION NUMBER: WO03/085113A
14 <151> PRIOR FILING DATE: 2003-04-04
16 <150> PRIOR APPLICATION NUMBER: WO03/085112A
17 <151> PRIOR FILING DATE: 2002-04-09
19 <160> NUMBER OF SEQ ID NOS: 39
21 <170> SOFTWARE: PatentIn version 3.1
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 167
25 <212> TYPE: DNA
26 <213> ORGANISM: Gallus gallus
28 <400> SEQUENCE: 1
29 ctgcctccag tctgaactt tctctgctgg gatgagcaga gttcacgctc ggctgaactc      60
31 gtgactgtgt caacaggggg catgaagatc agcaccaggc aaaggtgagc ggagtgcaca      120
33 agaatgaggc agagaccttt gggacaaaga gttccccacc cgtggggg                  167
36 <210> SEQ ID NO: 2
37 <211> LENGTH: 176
38 <212> TYPE: DNA
39 <213> ORGANISM: Gallus gallus
41 <400> SEQUENCE: 2
42 gggctccatc ggcctcttca ggttattgct atgttcaact cgtgtgacct tctccctgt      60
44 tttcaagggt ctgataacaa acttctagga cagcctgggtg acctttggct cagcttctc      120
46 tttaaactcc ggtggctttt gcttcattgc ctagtgttta cccagcagta aagatc          176
49 <210> SEQ ID NO: 3
50 <211> LENGTH: 175
51 <212> TYPE: DNA
52 <213> ORGANISM: Mus musculus
54 <400> SEQUENCE: 3
55 tgagctcatc aggttcctgg tggagagctg ggtgaaccga gttcgtttgc actgccttgg      60
57 cctgtgtgtg gcttcaggaa caggctcatgc tccaggattt aggacacagg ttagctgata      120
59 aggcccatgg agccggtgat atgaccgcga gggctactcc ctctgcccac gtcta          175
62 <210> SEQ ID NO: 4
63 <211> LENGTH: 280
64 <212> TYPE: DNA
65 <213> ORGANISM: Mus musculus

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67 &lt;400&gt; SEQUENCE: 4

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68 agtccagtca gaaccttctg gcttctgcc tgcagacagcc tatgagctca tcagggttcct      60
70 ggtggagagc tgggtgaacc gagttcgttt gcactgcctt ggctgtgtg tggcttcagg      120
72 aacaggatcat gctccaggat ttaggacaca ggtagctga taaggcccat ggagccggtg      180
74 atatgaccgc cagggtcact ccctctgcc aagtctagat acttgtttcc ctctttagac      240
76 tccagatcaa ggactccaga tctgtcatgg actcagaaaa      280

```

79 &lt;210&gt; SEQ ID NO: 5

80 &lt;211&gt; LENGTH: 321

81 &lt;212&gt; TYPE: DNA

82 &lt;213&gt; ORGANISM: Mus musculus

84 &lt;400&gt; SEQUENCE: 5

```

85 agtccagtca gaaccttctg gcttctgcc tgcagacagcc tatgagctca tcagggttcct      60
87 ggtggagagc tgggtgaacc gagttcgttt gcactgcctt ggctgtgtg tggcttcagg      120
89 aacaggatcat gctccaggat ttaggacaca ggtagctga taaggcccat ggagccggtg      180
91 atatgaccgc cagggtcact ccctctgcc aagtctagat acttgtttcc ctctttagac      240
93 tccagatcaa ggactccaga tctgtcatgg actcagaaaa cccccagta ccacccacc      300
95 cccgtgctc cctctatga t      321

```

98 &lt;210&gt; SEQ ID NO: 6

99 &lt;211&gt; LENGTH: 328

100 &lt;212&gt; TYPE: DNA

101 &lt;213&gt; ORGANISM: Mus musculus

103 &lt;400&gt; SEQUENCE: 6

```

104 gtggctgggt tgggatggga tgggaaggct tgtgtctctc tgattcctag tccagtcaga      60
106 accttctggc ttctgccatg agacagccta tgagctcatc aggttcctgg tggagagctg      120
108 ggtgaaccga gttcgtttgc actgccttgg cctgtgtgtg gcttcaggaa caggatcatgc      180
110 tccaggattt aggacacagg ttagctgata aggccatgg agccggtgat atgaccgcga      240
112 gggctactcc ctctgcccga gtctagatac ttgtttccct ctttagactc cagatcaagg      300
114 actccagatc tgtcatggac tcagaaaa      328

```

117 &lt;210&gt; SEQ ID NO: 7

118 &lt;211&gt; LENGTH: 369

119 &lt;212&gt; TYPE: DNA

120 &lt;213&gt; ORGANISM: Mus musculus

122 &lt;400&gt; SEQUENCE: 7

```

123 gtggctgggt tgggatggga tgggaaggct tgtgtctctc tgattcctag tccagtcaga      60
125 accttctggc ttctgccatg agacagccta tgagctcatc aggttcctgg tggagagctg      120
127 ggtgaaccga gttcgtttgc actgccttgg cctgtgtgtg gcttcaggaa caggatcatgc      180
129 tccaggattt aggacacagg ttagctgata aggccatgg agccggtgat atgaccgcga      240
131 gggctactcc ctctgcccga gtctagatac ttgtttccct ctttagactc cagatcaagg      300
133 actccagatc tgtcatggac tcagaaaacc cccagtagc accccacccc cgctgctccc      360
135 tcctatgat      369

```

138 &lt;210&gt; SEQ ID NO: 8

139 &lt;211&gt; LENGTH: 174

140 &lt;212&gt; TYPE: DNA

141 &lt;213&gt; ORGANISM: Homo sapiens

143 &lt;400&gt; SEQUENCE: 8

```

144 gcgcaaagtc aacacaagcc tctccaccgt gtgtccatgt ttatgtgtat gcgctgtgcc      60
146 ccgtcatgcc acctggacgc agggactcca gtgacctctc cttgcacaag cctctgctgg      120
148 tttgggaaag attggcatga catcagccaa gctctggcct tgcctttttt ccct      174

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151 &lt;210&gt; SEQ ID NO: 9

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152 &lt;211&gt; LENGTH: 800

153 &lt;212&gt; TYPE: DNA

154 &lt;213&gt; ORGANISM: Homo sapiens

156 &lt;400&gt; SEQUENCE: 9

```

157 caggcgcaaa gtcaacacaa gcctctccac cgtgtgtcca tgtttatgtg tatgcgctgt      60
159 gccccgtcat gccacctgga cgcagggaact ccagtgacct ctccttgcaac aagcctctgc      120
161 tggtttgga aagattggca tgacatcagc caagctctgg ccttgccctt tttccctccc      180
163 ggaacccggc tggctcaaga tctgagccgt ggatctgcac ccactttggg gagttcctgc      240
165 ccttgggcta gagtagaggc caagagtcaa agtgtggtgg gggctgaggc agcaggatcg      300
167 cttgagccca ggagttcaag gttagagtta tgtttgcatc actgcattcc agcctgggta      360
169 agagagcgag accctgcctc aaaaaaaaaa aaaaaaaaaa aaaaagagtg gtgggggtag      420
171 ggacagggag atgaggaagg ccctacagtg gagaaagcac caggaccaga acccagccct      480
173 cccttgctctg aatcttgctg cccacaggag cctggacagt ggccaggga ggttcgaatg      540
175 ccacacaggt gagcttgccc tctgctctgt aggcagtggg aagtgtggg agttgggcat      600
177 tcctgtgagg cgcatagtca acattgtgag tagggctgga tgcgagctg tgagagggaa      660
179 actagaagct ggaacatcta caggaggctt ttaagagaag cagagcggcc aggtgcagtg      720
181 gctgacacct gtaatccag cactttgggt ggccgagggg gtcagaacac ttgaggtcag      780
183 gagttcgaga ccagggtgac                                     800

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186 &lt;210&gt; SEQ ID NO: 10

187 &lt;211&gt; LENGTH: 935

188 &lt;212&gt; TYPE: DNA

189 &lt;213&gt; ORGANISM: Homo sapiens

191 &lt;400&gt; SEQUENCE: 10

```

192 cacggtacca caggaggcaa aggaccaccc atggaatcca cccaggaggg ccaggacagg      60
194 ggactcaggg gctcagcct gcactcacct gctcagcaga gctgagctca gggcataacg      120
196 tcagcttcct gggcagaaga gctgccaaa tcaaagcttt gctagtcaga aaattccttg      180
198 ggaatgttga gcaaggccac cactgacatc atgtgcaaat tcgcagacag cctctgcacc      240
200 taaggctact cagaccacac gccttggtc gatgggggtg cagactctgt atgccaccag      300
202 cacacccacc cacagggcag aggggtcagg acatagaatc agacaggccc caggggacccc      360
204 agtgaagatt ataggcagcc attccccact caacagagga gaaggtcaga gccaaagtctg      420
206 acattcccc atccccctct cataacaccc atgcatctgg cagtcagaca ggccaaagct      480
208 aaacctttcc cccccagcta cccaccaggg tcatcccaa gccaggtcag ggccaatgga      540
210 ggttggggtg gagaagacag gcttgccct atttcctgcc caactcagaa ccttctggtt      600
212 tctgccacag gatgccttgc aagcttateg gggtcactgt gggcagctgg gtgagctaag      660
214 ttcactctgt ctgccgtgac ctctgtgcag atgcatcaag aacacagagt gctccggggt      720
216 taggatgagg gcagcgtga taaggttcat ggaaccagt acagagcaca cagctgccc      780
218 cagagtcact cccctgtgcc ccagcctgga cacctcagct cctctcaac ccttcccga      840
220 ggtgctagat gtatatggga ccagaaagcc cctctgtgt cctcctgtgt gagagcccag      900
222 ctgcttaggt gtttgtgact ctgggcctcg agggg                                     935

```

225 &lt;210&gt; SEQ ID NO: 11

226 &lt;211&gt; LENGTH: 25

227 &lt;212&gt; TYPE: DNA

228 &lt;213&gt; ORGANISM: Artificial sequence

230 &lt;220&gt; FEATURE:

231 &lt;223&gt; OTHER INFORMATION: Forward PCR primer

233 &lt;400&gt; SEQUENCE: 11

```

234 ggggaccagt ccagtcagaa ccttc                                     25

```

237 &lt;210&gt; SEQ ID NO: 12

238 &lt;211&gt; LENGTH: 27

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Input Set : A:\Sequence.ST25.txt

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239 <212> TYPE: DNA
240 <213> ORGANISM: Artificial sequence
242 <220> FEATURE:
243 <223> OTHER INFORMATION: Reverse PCR primer
245 <400> SEQUENCE: 12
246 ccgctcgagt tttctgagtc catgaca 27
249 <210> SEQ ID NO: 13
250 <211> LENGTH: 26
251 <212> TYPE: DNA
252 <213> ORGANISM: Artificial sequence
254 <220> FEATURE:
255 <223> OTHER INFORMATION: Forward PCR primer
257 <400> SEQUENCE: 13
258 ggggtaccgt ggctgggttg ggatgg 26
261 <210> SEQ ID NO: 14
262 <211> LENGTH: 27
263 <212> TYPE: DNA
264 <213> ORGANISM: Artificial sequence
266 <220> FEATURE:
267 <223> OTHER INFORMATION: Reverse PCR primer
269 <400> SEQUENCE: 14
270 ccgctcgaga tcataggagg gagcagc 27
273 <210> SEQ ID NO: 15
274 <211> LENGTH: 32
275 <212> TYPE: DNA
276 <213> ORGANISM: artificial sequence
278 <220> FEATURE:
279 <223> OTHER INFORMATION: forward PCR primer
281 <400> SEQUENCE: 15
282 ggaggaactc gacacgatac caacatagca at 32
285 <210> SEQ ID NO: 16
286 <211> LENGTH: 30
287 <212> TYPE: DNA
288 <213> ORGANISM: artificial sequence
290 <220> FEATURE:
291 <223> OTHER INFORMATION: reverse PCR primer
293 <400> SEQUENCE: 16
294 ctatgttggt atcgtgtcga gttcctccct 30
297 <210> SEQ ID NO: 17
298 <211> LENGTH: 28
299 <212> TYPE: DNA
300 <213> ORGANISM: artificial sequence
302 <220> FEATURE:
303 <223> OTHER INFORMATION: forward PCR primer
305 <400> SEQUENCE: 17
306 gaattcgcca actgcagcca ggctgtcc 28
309 <210> SEQ ID NO: 18
310 <211> LENGTH: 30
311 <212> TYPE: DNA

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Input Set : A:\Sequence.ST25.txt

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312 <213> ORGANISM: artificial sequence
314 <220> FEATURE:
315 <223> OTHER INFORMATION: reverse PCR primer
317 <400> SEQUENCE: 18
318 cagcctggct gcagttggcg aattctcctc 30
321 <210> SEQ ID NO: 19
322 <211> LENGTH: 33
323 <212> TYPE: DNA
324 <213> ORGANISM: artificial sequence
326 <220> FEATURE:
327 <223> OTHER INFORMATION: forward PCR primer
329 <400> SEQUENCE: 19
330 cccacgcag cccaccgct cggctgaact cgt 33
333 <210> SEQ ID NO: 20
334 <211> LENGTH: 34
335 <212> TYPE: DNA
336 <213> ORGANISM: artificial sequence
338 <220> FEATURE:
339 <223> OTHER INFORMATION: reverse PCR primer
341 <400> SEQUENCE: 20
342 gtggggctgc gtggggcagc agagaaagtt cagg 34
345 <210> SEQ ID NO: 21
346 <211> LENGTH: 27
347 <212> TYPE: DNA
348 <213> ORGANISM: artificial sequence
350 <220> FEATURE:
351 <223> OTHER INFORMATION: forward PCR primer
353 <400> SEQUENCE: 21
354 gaattcacag ccatggtgaa gatcagc 27
357 <210> SEQ ID NO: 22
358 <211> LENGTH: 25
359 <212> TYPE: DNA
360 <213> ORGANISM: artificial sequence
362 <220> FEATURE:
363 <223> OTHER INFORMATION: reverse PCR primer
365 <400> SEQUENCE: 22
366 ccatggctgt gaattcagtc acgag 25
369 <210> SEQ ID NO: 23
370 <211> LENGTH: 24
371 <212> TYPE: DNA
372 <213> ORGANISM: artificial sequence
374 <220> FEATURE:
375 <223> OTHER INFORMATION: forward PCR primer
377 <400> SEQUENCE: 23
378 gtttaaagct ggcactgtcc caaa 24
381 <210> SEQ ID NO: 24
382 <211> LENGTH: 25
383 <212> TYPE: DNA
384 <213> ORGANISM: artificial sequence

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**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/510,678

DATE: 10/18/2004

TIME: 17:04:36

Input Set : A:\Sequence.ST25.txt

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L:13 M:270 C: Current Application Number differs, Replaced Current Application No

L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date